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## ANIMAL LIFE AT THE ROYAL ACADEMY.

BY THE EDITOR.

"We have the Exhibition to examine."

*Much Ado About Nothing*, iv. 2.

A CRITICISM upon animal-life as depicted in any collection of paintings, to be of value, we opine, should be penned either by an art-critic who is also a naturalist, or (as these qualifications are rarely combined) "in consultation," as the lawyers have it, by a representative of each of these two different professions. Certain it is that some of the best artists of the day, who from their profession may be supposed to be perfectly familiar with the principles of their art, are unable, from their want of acquaintance with Zoology, to criticise pictures of animal-life from any view of the subject but their own. Equally true is it that a naturalist, however observant he may be in his own particular sphere, must in a great measure fail if he attempt to descant upon an art with the principles of which he is more or less ignorant. The writer, finding himself in the latter category, experiences considerable diffidence in undertaking, single-handed, a critique on animals as depicted at the present time on the walls of the Royal Academy. It is to be understood that he makes no pretension to be considered an art-critic, and the remarks which follow are to be regarded as an expression of opinion by one who views pictures of the class under consideration solely with the eyes of a naturalist.

The configuration and relations of natural objects may be indicated by their circumscribing lines, or by the incidence and distribution of their lights and shadows; or, again, the artist may work upon a system which attends not to their configuration, but to the distribution, qualities and relations of colours upon their surface—the system of colour, as it is called.

Of these three systems, probably, a naturalist, *pur et simple*, is hardly competent to criticise any but the first. His eye, accurately trained by the constant observation of natural objects, is able to detect a faulty outline or the indication of a position or movement which is incompatible either with structure or habit. In such cases he can give reasons for his adverse criticism. With regard to "light and shade" he is more diffident. He may discover a want of reality in the effect produced, but may be unable to say why he considers it unreal. Still less is he able to criticise the method of "colour." His only standard really is Nature, and in proportion as a picture is natural its value in his eyes is enhanced. Judged by this standard it sometimes happens that a picture which more or less fulfils the requirements of art, fails to commend itself in consequence of some inaccuracy of detail which has escaped the artist's attention. Thus, where "breakers" are depicted upon a smooth sandy shore, without any opposing bank or rock whereon the waves may break; where spring flowers bloom in an autumn landscape; where sheep in harvest time are yet unshorn; where birds in snow are still in summer plumage, and so forth; such infidelity to Nature causes one to overlook almost entirely any redeeming merits which the picture may possess.

We have not unfrequently been surprised at the errors which are perpetrated, even by Royal Academicians, in depicting some incident of sport or natural history with which the artist apparently is not personally familiar. Thus, we remember to have seen a picture of hawking by a Royal Academician, in which the falconer is depicted as carrying his hawk upon the wrong hand, and without either hood or jesses. Only a week or two since we saw a charming etching on vellum by a modern French artist, in which a falconer was represented as in the act of taking away a Hare from four Kestrels! In the eyes of a naturalist, and in the eyes of a falconer, the artist could scarcely have committed a greater blunder!

When Mr. Hook, R.A., not so very long ago, with that wonderful power which he possesses of depicting coast scenery, took us to the very verge of a precipitous sea-cliff to witness the feat of a daring boy robbing a gull's nest in which four eggs were seen to be lying, he unfortunately selected for his "parent bird" flying to attack the boy a species of gull which happens never to breed in sea-cliffs at all, but makes its nest inland upon the ground. Such errors as these, in the eyes of a naturalist, sadly depreciate the value of a work otherwise so attractive.

Again, how often do we see an illustration of the fact that some of the best landscape painters are but indifferent pourtrayers of animals. A stubble-field in autumn, or a lonely moorside, may be charmingly rendered, so far as the landscape is concerned, but when for effect the artist attempts to introduce a little life, by depicting, say, a flock of Rooks on the one, or a pair of Peewits on the other, the result is rarely successful, the birds being generally so badly drawn as to make it difficult to divine for what species they can be intended. The reason of this shortcoming—that is to say, in the case of birds—seems to be that few artists appear to have studied attentively the anatomy of a bird's wing and the arrangement of the feathers which clothe it. Nor do they seem to have noticed how very different is the shape of the wing in species which belong to different genera. We are aware that Sir Joshua Reynolds, in one of his discourses, has said "Do not study Nature too closely;" but there is a wide difference between studying closely and not studying at all, and in animal painting, at least, the success of a picture must almost of necessity depend upon the accuracy of its outlines. If these are faulty, the most careful attention to light and shade, or to colour, will hardly compensate.

But to come to the present Exhibition. Compared with former years, there seem to be few animal pictures of real merit, if we except the works of Messrs. Ansdell, Cooper, and Davis, who are generally well represented. Of these we may speak in their turn. Mr. Ansdell, among several cattle-pictures, sends only one sporting subject this year (634), Grouse Shooting over a brace of dogs. So often has this favourite subject been painted that it is refreshing to mark in Mr. Ansdell's picture an entirely new and original treatment of it. The dogs, nearly life-size, are in the fore ground, and the sportsman, coming over some rising

ground immediately behind them and full face to the spectator, is represented as shooting straight out of the picture presumably at birds some forty yards in front of him. The fore-shortening of the breech-loader is cleverly effected, and the gillie, who brings up the rear, carries in his left hand a brace of admirably painted Grouse. Apart from the original treatment of the subject, this picture, both in outline and colour, strikes us as the best which Mr. Ansdell has sent this year.

Mr. Cooper has contributed "A Warm Sunny Evening" (257), "Mid-day Repose" (344), "Shadow and Sunshine" (373), "A Group in the Meadows" (717), "The Challenge" (1377), "The Victor's Shout" (1379), and "Receiving the Challenge" (1384); all good specimens of his peculiar mannerism in the treatment of cattle and landscape. Of these we should say the masterpiece is "Shadow and Sunshine," wherein a gathering rain-cloud is admirably represented, and the incidence and the distribution of the lights and shadows upon the cattle most skilfully managed.

A picture with a very similar title, "Cloud and Sunshine" (1399), by Mr. Davis, attracts that attention which is always due to the works of this artist, who as a painter of cattle at the present day may be regarded as *facile princeps*. Much, however, as we admire his landscape, his clouds, and his cows, we could wish that the bird-life which he has introduced had been better rendered. His Rooks are poor and incorrectly drawn. The picture of his which most takes our fancy this year is "A Mid-summer Night" (225), wherein a group of cattle are seen at night upon a pasture. Viewed at a proper distance this picture grows upon the spectator and strikes him as being a most careful study of attitude and repose, while the seeming advances of the dun bull to the white cow are as skilfully indicated as they are true to nature.

Very different to the clean-fleeced—we had almost said carefully-groomed—sheep of Mr. Ansdell are the weather-beaten flocks of Mr. Macwhirter, which give such life to his Highland landscapes. In his "Last Days of Autumn" (81), wherein a shepherd is seen driving a flock of horned sheep down a rocky slope fringed on one side with leafless birch trees, we have an illustration of the striking effect which is produced in a landscape by the introduction of a little animal-life, when that animal-life is skilfully and accurately depicted.



Mr. J. S. Noble, whose name is well known as a painter of dogs, has a good picture (152) entitled "Freedom and Imprisonment," in which a pack of hounds in kennel are represented as suddenly aroused by the passing of the huntsman with another pack *en route* for the cover-side. The eager impatience of the prisoners, as they pace the flags, leap against the bars, sniff at the closed door, or give vent to their feelings by loud baying, is capitally depicted. The colour is good, and the attitudes very life-like. In the case of one hound only does the drawing appear a little faulty—namely, the hound of which a stern view is given, where the hind legs, by being thrown too far under him, indicate a want of power in the quarters. Exception must also be taken to the coats of the hounds, which are too silky and delicate. The coat of a foxhound is more wiry.

It is curious how many blunders are made in hunting-pictures. One would suppose that an artist, if not a hunting-man himself, would have no difficulty in finding amongst his acquaintances some one with a knowledge of the sport and its details, to whom his picture might be submitted for criticism before being sent to Burlington House. But such a course, apparently, is seldom adopted. A very general fault is to depict "a kill" with horses as clean as if they had just come out of the yard; hounds ditto; and the dead fox smooth, sleek, and scatheless! We look in vain for the dilated nostrils, steaming flanks, and mud-bespattered hocks and feet of the hunter; for the open-mouth, blood-stained jaws and lolling tongue of the hound, with a trickle, too, of blood on his lashing stern, betokening close contact with gorse and briar; and for the draggled and blood-stained fur of the "varmint."

A case in point is furnished by No. 413, "The Death: recollection of a kill with the Pytchley Hounds," concerning which we can well imagine some such conversation as the following taking place:—

*Spectator.* "You see, they have just killed their fox, and—"

*Hunting-man.* "Not they. They never killed *that* fox, I warrant you. Much too clean. Must have been 'a bagman' which they *meant* to have killed, but which died in the sack on the way to cover! Of course the horses and hounds are nice and clean, because they have been disappointed of a run!"

A more meritorious picture, because truer to nature, is Mr. Hopkins's "Forrard away" (1393), in which a youthful whip

is seen getting the tail-hounds out of cover, while the huntsman, with the rest of the pack and some of the field, have just settled down on the line of their fox a field away. The attitude of the whip as he turns in his saddle is very good, and his horse—a grey—and the hounds are well drawn; although perhaps a good judge might say that the latter carry a little too much flesh for hunting. But we don't like the chesnut on the left. He appears to be moving two legs *on the same side* at once, which is wrong.

Amongst the sporting pictures, we suppose, must be classed Mr. F. A. Bridgeman's (441), "A Royal Pastime in Nineveh," wherein a king of the period is represented as having descended from his throne in the amphitheatre to slay lions in the arena, while the queen and her attendant courtiers look anxiously on from above. One lion already lies dead, while the king, with bended bow, is in the act of sending an arrow at a second, which has just been turned into the arena. From the position in which the arrow is directed we are not without anxiety for the result, lest perchance the tables should be turned, and the "royal pastime" prove to be for the "king of beasts" instead of for the "king of men." The expression of the advancing lion is very comical; it is impossible to look at him without laughing; he seems to treat the whole business as a good joke. A contemporary has likened the expression to "that of a tom cat going to sneeze." We have often heard the sound he refers to, but have generally been just too late to catch "the expression." It is only fair, however, to the artist to state that his dead lion is really capitally drawn, and that the dresses, arms, and sculpture betoken a careful and successful study of antiquities.

A somewhat remarkable picture is Mr. Herbert Johnson's "Crossing the Sarda: an incident of the Prince of Wales' tour in India" (572). The scene here depicted was thus described in 'The Times' of March 20th, 1876:—

"The afternoon sport was inaugurated by a display rarely given to any one to witness. . . . Such a spectacle was never beheld by living man; and indeed it may be doubted if the like was ever seen in past ages. This was a procession of seven hundred Elephants. The Prince sat in his howdah waiting for three-quarters of an hour, and watching the wonderful column cross the arm of the Sarda. There were six hundred Elephants belonging to Nepal, and about one hundred which had come

over with the Prince. To each Elephant there were at least two persons—the mahout and a man on the pad; many carried three or four people. It is not too much to say that there were 1800 persons engaged in the beat."

The artist has shown much skill and judgment in his treatment of the subject, and by assuming the spectator to be on the river-bank in the fore ground to the right, and causing the procession to pass along the opposite bank from left to right for a considerable distance before crossing, he has obtained, we think, the best possible effect.

From Indian Elephants to Indian Tigers the transition is natural, and we are reminded of Mr. J. T. Nettleship's impersonation of "Fear" (187). Here, by the agency of a flood, two animals of very different natures find themselves, in close proximity, the sole occupants of a floating log. At one corner a huge Python, partially submerged, is just enabled to keep his head above water; while, crouching flat upon the log, with teeth set and ears laid back, lies a Royal Tiger, holding on with every appearance of abject terror. As a study of animal life, good in colour and nearly correct in outline, this picture strikes us as one that commends itself both to the naturalist and the art-critic.

Conspicuous amongst the animal-pictures by its large size is Mr. Bouverie Goddard's "Struggle for Existence" (639)—a remarkable picture.

"By wintry famine rous'd, from all the tract  
Of horrid mountains . . . . .  
Cruel as death, and hungry as the grave!  
Burning for blood! bony, and gaunt, and grim!  
Assembling Wolves in raging troops descend,  
And, pouring o'er the country, bear along,  
Keen as the north wind sweeps the glossy snow.  
All is their prize."

THOMSON'S "WINTER."

This is the scene which the artist has depicted. A pack of wolves, nearly life-size, driven to desperation by the severity of the winter and their inability to procure food, are engaged in fierce conflict in their "struggle for existence." The weaker are being gradually overcome, and are being killed and eaten by the stronger, a scene which aptly paves the way for a second

picture which possibly we may see next year upon the walls of the Academy, under the title "The survival of the fittest." We like this picture much, although its size strikes as being inconveniently large. But there is evidence of careful observation of the animals delineated. Each separate wolf is a study; the attitudes are varied and well chosen, and the fore-shortening in some cases is excellent; while an admirable effect of colour is produced by the juxtaposition of the thick grey fur of the wolves and the glistening white of the snow in which they are fighting. A little more blood upon the snow, although not a pleasant thing to look upon as a rule, would have added, we think, greater force to the picture. If we have one fault to find, it is from the naturalist's point of view. It has been observed of wolves that they always make a combined attack upon their victim, and one would therefore expect to see the dead wolf in the foreground in the process of being torn to pieces and devoured, instead of being allowed to lie unmolested as soon as he has ceased to struggle. Upon this point, however, the artist has perhaps exercised a wise discretion. After all the great aim of art, in the first place, is to please, and it cannot be said that the contemplation of blood and mangled remains can be productive of pleasure to anyone. The dead wolf, therefore, must either be *supposed* to have been eaten, in which case he would not be seen, or he must lie there in his entirety. The artist has preferred the latter alternative, and in no other way, does it seem, can "the survival of the fittest," in this case, by the death of the weakest, be indicated. For one wolf may be as good as another, and it does not necessarily follow that a struggle of the kind depicted should always end in death. Thus, we take it, in this case the naturalist must give way, and allow that the artist is right.

An equally remarkable picture, though for a different reason, is "The Poacher's Widow" (195) by Briton Rivière. We presume it is intended to be pathetic, but it nearly approaches the ludicrous. The widow in question, without bonnet or shawl, although it is night, is seated on the ground behind a solitary furze-bush on the slope of the hill at the edge of a cover. With her hair dishevelled and her head buried in her hands, she is absorbed apparently in contemplation of the spot where her husband, the poacher, met his death. But the solemnity of the



idea suggested by the lines of Charles Kingsley, and which the artist quotes—

“She thought of the dark plantation  
And the hares, and her husband’s blood,”

is banished at once by the appearance upon the scene of thirty odd rabbits, four cock pheasants, two hen ditto, and two hares, all of which are represented as feeding and playing within a very few feet of the unfortunate widow. Apart from the absurdity of introducing this quantity of game, or any game at all for the matter of that, *in such close proximity* to an intruder, the details of the picture suggest several points of criticism, none of which can be considered favourable to the artist. In the first place pheasants have no business there at all, for the scene is “moon-light,” a time at which, as every sportsman knows or should know, all good pheasants are at roost. In the next place, assuming that pheasants are legitimately introduced, one would hardly expect to see the old-fashioned *Phasianus colchicus* amongst them, this species having become well-nigh extinguished by constant interbreeding with the Chinese *torquatus* and Japanese *versicolor*. Except in districts far removed from the great centres of game preserving, one rarely meets with a bird of the pure old breed. Again, the relative proportions of hare and pheasant are not well preserved, the former being depicted as not much larger than the latter, and of such insignificant weight as to make little or no impression on the laid corn on which they are sitting. Possibly the picture is intended to point a moral as well as to adorn a tale! And we are perhaps to infer that the poacher could not have been so black as he was painted, or he would not have left so much game behind him! At all events, from a naturalist’s point of view, we should be grateful to him for having spared the above-mentioned *Phasianus colchicus*.

Amongst the marine paintings in the Exhibition this year there are several which we should like to notice, did space permit, but we are only able to refer to two or three. “The Sea-birds’ Resting-place” (447), and “Where deep Seas moan” (1386), both by Mr. Peter Graham, especially attract the eye of the naturalist by the bird-life which is skilfully introduced, and the artist’s clever treatment of precipitous sea-cliffs and heaving waves. By the way Mr. Graham, in the latter picture, has given

his Herring Gulls *yellow* legs and feet, which, if the cliffs are Scotch, as we take them to be, would not be quite correct, the yellow legs being indicative of the Mediterranean Herring Gull, the same parts in our bird being flesh-coloured.

In Mr. Hook's otherwise admirable painting of the "Mushroom Gatherers" (275), we have seldom seen anything so badly drawn as the uppermost sea-gull, which is supposed to be flying, in the top left-hand corner; it is—we regret to say it—a positive deformity. Few artists, strange to say, seem to know anything about the anatomy of a bird's wing, and in nine cases out of ten, in a bird with extended wings, the drawing is all wrong. On what part of the coast mushrooms may be found growing on the rocks, as indicated in this picture, the Catalogue does not inform us. We have certainly never seen them so near high-water mark before, and the specimens collected present a *fungoid* appearance which reminds us a great deal more of Cooke, M.C., than of Hook, R.A. However, there they are, by Hook or by Cooke.

There are numerous other paintings by minor artists which profess to deal with Natural-History subjects, but which embody some unfortunate blunder which generally spoils the picture. Thus we have a Peewit represented as leaving a nest of eggs which do not belong to her; a Heron standing in a pool *at the foot of a fall*, where one would naturally expect to find the water of such a depth as to make it utterly impossible for the bird to stand there; and so forth. Of such pictures as these we need only say that the authors should study Nature a little more closely.

One more picture only remains to be noticed ere we bring these remarks to a close—namely, Mr. Marks's diploma work (379), deposited on his election as an Academician, and entitled "Science is Measurement." Those who remember "The Ornithologist," by the same hand, which was exhibited a few years since, will recognise in the present picture the peculiar mannerism which distinguishes the works of this artist—a mannerism which always indicates a keen sense of humour. An anatomist of the old school (so we judge by his costume) is represented as engaged in carefully measuring the skeleton of a huge bird, an Adjutant. His pencil is in his mouth, a book under his arm, and a tape-measure in his hand, while in an open

portfolio before him lie numerous notes and sketches, to which he has evidently been referring in the course of his studies. Before him is set up the grim skeleton of the Adjutant, and the contrast between the figure of the old man and the anatomical outline of the bird is irresistibly ludicrous, while at the same time pleasing; for there is a refinement in Mr. Marks's humour which always makes his pictures attractive.

On reperusing the foregoing pages it occurs to us that we might have noticed the pictures that we have referred to in the order of their numbers in the Catalogue. We might have commenced in Gallery No. 1, and, book in hand, have gone steadily through to the Sculpture Room. But we have preferred to travel a little out of the beaten track—to look for pictures of animal-life without reference to the Catalogue (to which we have only turned to discover the artist's name); and to criticise those pictures, as we have said, not with the eyes of an art-critic, which we do not pretend to possess, but with the eyes of a naturalist. With Edmund, in 'King Lear,' we say:—"Thou, Nature, art my goddess; to thy law my services are bound."

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#### A VISIT TO A BREEDING-PLACE OF THE PELICAN IN THE DANUBE-DELTA OF THE DOBRUDSCHA.

(From the German of PAUL and MAX SINTENIS, of Bolkenhain, Silesia.)

BY CARL ARMBRUSTER.

DURING our stay in the Dobrudscha we had commissions from various quarters for eggs of *Pelecanus onocrotalus* (which was supposed to breed there), for authenticated specimens were rarely or never in the market. We undertook these commissions with all the more pleasure because it would give us an opportunity of investigating the Danube-Delta, which, zoologically and botanically speaking, is quite unknown, and because this immense reed-wilderness justified the expectation that a breeding-place of the gigantic bird would be found there.

On June 15, 1874, we started from Cukarova, near Bahadagh, our residence at that time, fitted out with all necessaries, and two days later, after a highly interesting and profitable journey in a waggon, we arrived at Kederless, a large fishing village, situated

at the extremity of the St. George estuary, in the south-eastern corner of the Delta. All the information which we collected here pointed to the north-west, and on June 19th we had already found a new home in the Russian colony Kara-Orman (black forest) in the Delta-forest of the same name. Here we made the necessary enquiries after breeding-places, and personally visited almost all the spots named, without, however, attaining our object. Unfortunately fish were scarce this year, and we found all the supposed breeding-places deserted, and all our trouble seemed in vain. By this time the month of July had begun. Good fortune at length brought us in communication with two Russian fishermen, Fetka and Demian, who were reputed good shots, and who gave us their word of honour that they had discovered a large breeding colony of the bird we were in search of. Like all their predecessors, they demanded a Turkish lira (about nineteen shillings) per day each, besides their food. We resolved to make a last attempt, and accordingly sent them with our faithful and long-tried *chasseur*, Ferdinand Beyer, into the Balta, on July 6th, to bring us some proof of the truth of their assertion. What followed we take from our diary, believing that the impressions which we noted down on the spot will convey the best idea of the situation. We must ask the reader's kind indulgence, however, for these notes were never intended for publication, and were made under circumstances which precluded attention to form and style.

July 8, 1874. At last we have attained the object of our wishes—a well-stocked breeding-place of *Pelecanus onocrotalus* is found! We reached the spot after considerable trouble; it is a little "liman" (lake), surrounded by a circle of half-floating islands. Upon the latter are the nests, each one containing from two to four eggs. Many eggs are still unhatched; in many the young are screaming. Naked birds, others in the down, half-fledged ones and full-grown birds, all mixed up. Ferdinand has shot four old Pelicans; the two Russians five, amongst which is a single *Pelecanus crispus*. Besides these the following have been procured:—*Cygnus olor* (two adult and seven nestlings), *Ardea purpurea* (one), *Podiceps cristatus* (one), *P. subcristatus* (four),\* *Anas nyroca* (three), *Larus ridibundus* (three), and *Sterna hybrida* (one). Of the last-named Sea Swallow a

\* *Podiceps subcristatus*, Jacq. = *P. rubricollis*, Latham.—ED.



breeding-place, with fresh eggs, has been likewise found; we shall fetch them as soon as possible. Ferdinand has also brought with him more than two hundred Pelican's eggs. *Sterna hirundo* also breeds there, as well as *Larus ridibundus*. The nests of the latter rest upon the leaves of water-lilies; the young are already well-fledged. The larger specimens having been left behind at the "skelle" (a landing-place for boats), situated to the west, we take a carriage and drive there, and an hour later reach the place. The young Swans in down, of the size of a Goose, are particularly pretty; but unfortunately we shall be able to skin but very few, for the heat is intense, and the birds begin to smell; we shall do our best, however, and shall at all events preserve the skeletons. Thus we are again engrossed with work. It is most important that we should proceed to the neighbourhood of the colony, in order to work there, because, at this distance, it is almost impossible to obtain fresh birds. Of course our sojourn there will be attended with many difficulties—swarms of mosquitos (*Culex pipiens*), contaminated air, undrinkable water! About half-way in the Balta there is a fishing-hut, where possibly we may be able to stay. To-morrow the two Russians will drive to Lake Obreteno for a couple of days to shoot wild geese and divers. On their return we think of starting. We shall then be able to report more exactly from personal observation. At sunset we reached the village with our booty; we paid the men liberally, and then set to work at once. We worked until far into the night. First, a number of eggs were blown; they seemed to us larger than *P. crispus*. A Swan's egg has also been found; the contents, however, were rotten, as we had expected. Two *Anas nyroca* and two *Larus ridibundus* were skinned. The colony is said not to be half so large as it was last year. The old birds behaved very shyly, and, after repeated shooting, flew away altogether, so that unfortunately many of the abandoned young ones died of starvation. Altogether the birds seem to be badly off for food. A great many Sea Eagles and Marsh Harriers made their appearance at the colony this morning. Bearded Tits are everywhere frequently seen, as well as Moorhens and a single Bittern (*Ardea stellaris*), but only four *Ardea garzetta*. On one island were found some last year's nests of the Little Cormorant (*Carbo pygmaeus*), "Malenka Paklan," as the Russians call it, some old willow shrubs, it is said, being quite studded with them.

Possibly we may find a colony of these birds. An old Cormorant (*C. cormoranus*) and a half-fledged young one in an interesting state of plumage were also procured.

July 9. We were at work at daybreak; heat intense, swarms of flies. Unfortunately only one of the Swans in down could be prepared; of the others we only took off the skin of the breast, as we did also off the old one, which had no quill-feathers left. The Cormorant made a good specimen. We hardly spared time for eating. It is remarkable that young Pelicans on leaving the egg are quite naked; we shall put some of them into spirit. Every evening now the Balta cockchaffers (*Melolontha fullo*) appear in immense numbers and fill the air with their humming.

July 10. Fine weather, but hot. Skinned and prepared the Pelicans. Nasty work; everything smells badly, and will not keep the feathers. We are very badly off for material for stuffing; we had taken with us a large bag of sea-weed (*Zostera nana*) from Tschukarova, but this was used up long ago. There is no soft hay to be had here, nor any straw; thus we had to look out for reed-tops. After many fruitless searches, we at length found some in the roof of a newly-built house, which were at once taken into requisition. We shall not be able to visit the breeding-places to-morrow; nobody will take us there, for everyone is occupied with the harvest; nor have we yet found time to prepare the skeletons we wished. Two boys brought us three young *Falco rufipes* in down; they were of medium size. The two we got on the 6th are getting on very well and afford us much amusement; their food consists of meat only. A thunder-storm in the evening.

July 11. Fine weather. Finished our work; the three little Falcons got yesterday are also prepared. We have not made any skeletons, however, the specimens being too much damaged by the shot. To-day again we looked in vain for guides for to-morrow, and have now resolved to row alone in a larger boat as far as the fishing-hut, and to try and find somebody there who will take us on; perhaps the fishermen will consent afterwards to come with us. In the afternoon we had many visitors, Turks and Russians, who were anxious to see our collections.

July 12. In the forenoon we visited Fetka and Demian, and asked them for their large boat to row to the fishing-

hut, which request was readily granted. But they warned us not to go alone into the Balta, a warning which we did not heed. At noon we started with Ferdinand, our *chasseur*. As we expected to get some Bearded Tits, we took all necessary implements with us, including egg-drills. But as we only intended to be absent until evening, we neither took any provisions nor the very necessary mosquito-net. Heat beyond description. The journey to the landing-place across the glowing sand was anything but pleasant. But we were soon in the large boat, and cheerfully rowing across the narrow channel. At first we were hemmed in on both sides by the lesser bulrush (*Typha angustifolia*) almost exclusively, amongst which *Ranunculus lingua* blossomed beautifully. Here and there we could certainly hear a Bearded Tit, but could not see one. We had a pleasant surprise in the occurrence of a doubtful little plant, which floated everywhere on the water's surface, sending up little round whitish green blossoms. This was *Aldrovanda vesiculosa*. For about an hour we proceeded very smoothly, but at length floating islands barred the water-way, which was hitherto free. We had to push these islands aside with much trouble, and with our united strength we at last succeeded in breaking through, and arrived upon one of those little lakes covered with water-lilies (amongst them *Nuphar*), of which there seem to be numbers in the Delta. *Anas nyroca* swam about in little flocks. From here we had again to work through floating islands, which so barricaded our way that we at last doubted whether we should ever get any farther. It cost us much time and trouble. All at once, on pushing through the reeds, we looked across the surface of a larger lake. We had reached the "Liman Kuibide." A greater number of these floating islands is dispersed over this lake, which is adorned by *Nymphaea* and *Nuphar*, and in places is thickly covered with water-milfoil, *Myriophyllum spicatum* and *verticillatum*, with glistening green panicles. A few Cormorants, many Ducks (all *Anas nyroca*) and Sea Swallows (*Sterna hirundo*), enlivened the scene. We rowed right across the lake to the reedy shore opposite. Quite a remarkable phenomenon to us were the floating nests of *Sterna hirundo*! In a shallow cavity two eggs were always lying in the middle of a real little island of reed-roots and portions of other aquatic plants which had drifted together. These islands are barely a square foot in size, and never carry

more than a single nest; they seem entirely to float on the water, which is from twelve to twenty feet in depth. These nests were generally at some distance from one another, and generally in places covered with the water milfoil (*Myriophyllum*). The large numbers of Terns flying about seemed, however, to be out of all proportion to the few nests we saw. The breeding birds were rather shy. *Sterna nigra* and *hybrida* were also seen several times. At the opposite bank we looked in vain for the entrance to the "Girila" which leads to the fishing-hut. Several times we penetrated the labyrinth of floating islands, but were always compelled to turn back. In this way the time passed, and we were obliged to give up our plans. It wanted but two hours of dusk, and we could not possibly delay longer our return journey. We thought we knew exactly the direction we had to take, and had no idea of the extraordinary difficulty of finding one's way in this treacherous wilderness. We rowed back across the lake towards the opening we had come out of—but where was it? It could not have been anywhere else but here, and with all our might we forced our boat into the thicket of reeds. With infinite trouble we made our way for about a hundred yards, until it was impossible to get any farther. Now back again to the lake! but where is the path we have just forced our boat along? The yielding reeds have closed over and concealed it. Only he who has convinced himself with his own eyes can form any idea of this enormous wilderness. The whole Balta—who knows its extent?—consists of nothing else but floating islands; not a single firm spot is to be found, not even one of a square foot in size. All turns, moves, unites and separates. The islands vary considerably in size; all bear the wildest vegetation—reeds (*Phragmites*) from twelve to twenty feet high, and ferns (*Aspidium thelypteris*) from four to six feet in height. The latter represents the underwood, as it were. Water-hemlock (*Cicuta virosa*) and *Rumex* of different species are there most conspicuous. *Stachys palustris*, *Scutellaria galericulata*, and *Polygonum persicaria* and *hydropiper*, and sometimes *Epipactis palustris*, grow now singly, now in batches, on the margins. Each separate island is a charming group of plants, than which no gardener could compose a more beautiful one—the whole is of exquisite beauty. Magical sunlight flows through the great solitude. Not a breath of air is stirring, but mysteriously the reeds rustle on and on; only the



song of the Great Reed Warbler (*Acrocephalus turdoides*) interrupts the loud silence for some minutes. These floating reed forests are intersected by innumerable broad and narrow channels, which, with a depth of from fifteen to twenty feet, form a treacherous cover of aquatic plants, and are here and there quite choked by them, particularly with hornwort (*Ceratophyllum*) and water soldier (*Stratiotes aloides*). The latter reaches a foot high above the surface with its sharp leaves, and adds to the difficulty of navigation. Charming as this labyrinth of islands may be, it becomes appalling to him who loses his way in it! We soon found ourselves in this predicament, and although we continued to try our luck in different places, it was always in vain. Our strength began to fail—hunger made itself felt. We could not resist a feeling of oppression. The sun sank, and with it our last hope; for without it there could be no question of our inability to find our way through the dense reeds. We were at some hundred yards distance from the lake, and thoroughly wedged in between the floating masses. It was impossible to get a footing outside the boat; as soon as we tried to step on supposed firm ground it sank immediately, and the water threatened to engulf us. And then we had to look forward to the most terrible torments from that army of flies, the blood-thirsty mosquitos; We could not possibly pass the night among the reeds; we were bound to try all we could to regain the lake at least, and with it freer air. We forced our way back with the power of despair, and breathed more freely when at last we regained the smooth surface of the lake. Rowing along the reed-banks, we noticed a spot where formerly a fishing-hut seemed to have stood. This we selected for our camp. Of course it was but a shaky cover composed of dried reeds, yet it seemed firm enough to carry us and the boat. With our hunting-knives we quickly cut off green reeds and ferns, arranged them for us to lie upon, and turned our boat upside-down upon the whole, hoping thus to be a little protected from the mosquitos. But our scheme was not successful: the ground gave way considerably, and the water rose higher and higher. We turned our boat over again, lined it with reeds and covered it completely with them; here at least we could not get drowned. Now we crept in between the reeds through a little gap, and pressed closely against one another, hoping thus to be able to sleep for a few hours. But this, too,

was impossible: we were lying as if buried alive—impossible to bear it. Again we crept out of the narrow space, and to our horror we heard the “hum” of the mosquitos on all sides. Night had set in; the stars shone feebly; and we had no alternative but again to float our boat, to sit down in it, and to row out upon the open lake, where we supposed there would be more draught, which we knew did not suit the mosquitos. And this plan turned out the best. In the middle of the lake we took in the oars, covered our heads with our handkerchiefs as well as we could, and gave ourselves up to the waves, and tried to sleep.

July 13. The biting cold and tormenting hunger, as well as anxiety for our immediate future, did not allow us much rest. The night, instead of refreshing us, caused us to be all the more worn out. The conviction gained ground more and more in our minds that it was perfectly impossible to penetrate the island-labyrinth. The last hope, that in the course of the day a human being might pass the lake, was so very doubtful that we could hardly give it a thought; because, in the first place, everybody was occupied with the harvest, and in the next, the Kara-Orman Russians came this way but rarely and quite accidentally; while from the other side probably not a soul came all the year round. We waited for daybreak with broken spirits. At the first dawn the lake birds became lively. *Sterna hirundo* and *nigra* hunted about, screaming; Ducks came and went, so did Cormorants and little white Herons. But our condition hardly disposed us to contemplate the interesting doings of these happy birds. When the red glow of sunrise was reflected by the waters, we left our station and rowed doubtfully along the reed-border, gathering fresh hope that we might find the right track after all. It was perhaps the twentieth time that, at a seemingly favourable spot, we made the attempt to force our way through, with the firm intention not to turn back, however great the obstacles we might meet with. We had two guiding points—the sun and the summit of a tree, no doubt belonging to the forest of Kara-Orman; the latter, of course, we could only see on the lake when standing on the seat of our boat. Our spirits revived a little when the sun rose, the warm rays acting beneficially; the dew was sparkling upon the leaves. In a situation a little more favourable than ours the magnificent surroundings would have rendered us the happiest of mortals,

because the effect which the ever-changing islands make defies all description. Of what avail was our attempting to signal? At the next moment the reed-bush we had just bent over stood in the exactly opposite direction, and the passage we had only just forced with infinite trouble had disappeared without leaving a trace. What little strength we had left hardly sufficed to get us back to the open lake; and here we rowed to and fro without an object. Noon could not be far off; the heat was scorching. In due time we looked forward to another night in the boat, and had a great mind to shoot Sea Swallows and devour them raw; when all at once—we hardly believed our eyes—at the edge of a distant reed-bed a boat appeared, similar in shape to a Pelican, guided by two men in their shirt-sleeves, as a look through our telescope showed us. We quickly fired off our guns and shouted with all our might. They soon saw and came towards us. They were fishermen from Kara-Orman whom we knew. They listened to our tale of sufferings with a significant smile, and merely said that many had lost their way on the "Kuibide"—that they themselves had frequently missed it, although they were often this way. They appeared to us, however, like ministering angels, and we indeed thanked heaven, for no other boat probably would cross the lake this week, the peasants being all in the fields and absent from the village till Saturday. For some reason or other these two went to the fishing-hut on the "Girila," where we proposed to go, and since we expected to find food and drink there sooner than elsewhere, and did not care to return home without some object, we rowed along with them. Now we entered the reeds in quite a different place, and after rowing a few yards we reached a narrow canal, which some ten minutes later ended in the "Girila Litkow." Upon this we now proceeded. The Girila is very deep and broad, and goes a great distance through the Delta. Half-an-hour later we reached the fishing-hut, a little hut situated romantically below high willow trees, with a little kitchen-garden, which we certainly never expected to find here. A friendly old fisherman greeted us and asked us to come in. He was soon acquainted with our adventure, and took pains to get us some food as quickly as possible. This consisted of fish and "mamelika." It is needless to say we never sat down to dinner with keener appetite. After the important business was over, and we felt restored to life, we enquired whether it was possible

to live here for a few days. The old man, however, was not the master, but the servant, and could not give us a decisive answer, but he did not doubt that it could be managed, and that some small boats might be lent to us. We should have liked very much to wait for the return of the proprietor, who was absent, but the two Russians wished to return home, and thus we had no choice. In the Girla float large masses of *Lemna polyrhiza*, gigantic specimens; we gathered a quantity, and then proceeded on our return. This, of course, took us less time than the outward journey, yet in several places we had quite work enough to get through. Late in the afternoon we again reached the "skelle" (landing-place) from which we had started, and without stoppage we returned to the village, where we were already believed to be lost. We heard afterwards that the two Russians had come out expressly to look for us. At the village inn we celebrated with them our happy return in a glass "fresh from the cask."

July 14. Before we started on the 12th some boys brought us several young *Falco rufipes* in down; to-day we skinned three of these. The heat is overpowering. The same boys came to-day with four Rollers (*Coracias garrulus*), of which one was also skinned. Besides these we obtained a very fine Eagle, *Aquila naevia*, in nestling plumage. We shall therefore have plenty of work for to-morrow, and the day after we shall start for the fishing-hut, but it will be very difficult to get guides.

July 15. Fetka and Demian have flatly refused to accompany us to the Pelican colony—they must go to the fields, the corn is over-ripe. Thus, there is nothing left but to trust to our own strength, and again to make the journey with our *chasseur*, however rash it may be to do so. In the morning we finished preparing two of the Falcons and the young Eagle; in the afternoon we boiled some arsenical soap. The heat continues to increase. Towards evening we looked out for a conveyance to the "skelle" for to-morrow, as we shall have to take plenty of luggage, but we could not find one; there is hardly anyone at home—they are all in the fields.

July 16. This morning, again, we looked in vain for a conveyance. There is nothing for it but to walk over to the "skelle." The luggage, therefore, was reduced as much as possible, notwithstanding which a goodly quantity was got together. We



started about noon, and consequently got into the greatest heat, from which we suffered considerably. We lost our way into the bargain. The two little Red-footed Falcons we carried with us, too. At the "skelle" we took the first boat we could get and pushed off. On the road we met an old fisherman, who advised us to return, for the wind had caused great confusion amongst the islands; but we were not to be deterred. The graceful *Aldrovandra* now blossoms in quantities. The passage through the floating islands again caused us considerable trouble to-day, but we reached the "Kuibide" without accident, and on the other side soon found the right entrance to the "Girila." We reached the fishing-hut by the most beautiful evening light. The "master" received us very kindly, and at once assigned us quarters—*i. e.*, he gave us permission to open our mosquito-net by the side of his hut, and to do our work under it. After partaking of a good dish of fish, we made the necessary arrangements for to-morrow, for we were anxious not to lose time, and wanted to start for the Pelican colony as quickly as possible. Two little boats were soon found, and the old man's boy was to accompany us. Soon after sunset we had to retire under the net, the mosquitos swarming in millions.

July 17. Immediately after breakfast, which we had soon after sunrise, we began our journey. We had to row along the Girila for two or three hours, and then to turn to the right into the reeds. We therefore resolved to row as far as possible in our comfortable, larger boat, and took one of the smaller boats in tow, the boy getting into the other one. A deep blue sky smiled upon our enterprise. Our progress became difficult only too soon, for the broad channel was almost entirely overgrown with plants,—*Stratiotes*, *Ceratophyllum demersum* and *submersum*, and *Nymphæa*,—so that large patches looked more like meadows. It cost us a deal of hard work to get through. At every stroke of the oars innumerable small butterflies flew up. The rays of the sun became scorching, and only rarely a breath of air refreshed us. We may have rowed for some three hours, when at last we noticed the place in the reeds where we had to enter the thicket. Here we anchored our large boat and got into the smaller one, which at first we had to drag over some fifty yards of shallow ground. The thicket was at first exclusively formed by bulrushes, adorned with *Ranunculus lingua*, *Stachys palustris*, *Polygonum minus*,

and *Nasturtium*. We soon entered the higher reed-beds, and progressed very well, the reeds being not quite so dense here, and the surface of the water being covered with the frog-bit (*Hydrocharis morsus-ranæ*). Besides this pretty plant, we noticed the magnificent *Villarsia nymphaeoides*, the odorous golden-yellow flowers of which are the most beautiful ornament of the Balta. Here we also remarked *Ceratophyllum platyacanthum* with fruit. Snails, spiders, small butterflies, and beetles inhabit this lonely wilderness. We passed several floating islands, but were not obstructed by them. On one of these our *chasseur* informed us that we were now only some thirty yards away from the nearest eggs. At this announcement we were not a little excited, but rowed along silently. The reeds got thinner; a little "liman" (lake) appeared, bordered by floating islands. Upon these we saw a few eggs, either of *Pelecanus onocrotalus* or *crispus*—we could not decide which, because no bird was to be seen. We had certainly come upon a deserted nesting-place, such as Ferdinand had already described to us. We therefore did not lose much time here, but tried to find the right breeding-place. This could not be found so easily. We had to pass a great many floating islands, as well as a few open patches of water. Upon the latter we saw numbers of Cormorants. We also found a young Pelican (*P. crispus*), which could not yet fly, and after chasing it for some time we caught it alive. Upon these islands we noticed gigantic specimens of the water-pepper (*Polygonum hydropiper*) in blossom, as also a very plentiful *Nasturtium*. *Solanum dulcamara* and *Convolvulus sepium* climb up to a great height and are covered with blossoms. Here and there the surface of the water is densely covered by the golden-yellow flowers of the common bladderwort (*Utricularia*). At length we reached the right "liman." This deserted place, as we subsequently learnt, bears no name. Through the reeds of the last floating islands we could overlook the surface of the little lake, in the middle of which was a large patch overgrown with *Nymphaea* and three little reedy islands; its borders being also formed by half-floating islands. Opposite to us we saw a large flock of Pelicans, partly swimming, partly standing up among or before the reeds. The sight was a charming one. A most peculiar music, if we may so call it, reached our ears, sounding as if several jew's-harps were being played at the same time. Numbers of Pelicans, too, were

flying about. After having looked at this highly interesting scene for some time we resolved to make a raid upon these fine birds, in order to ascertain, amongst other things, with which species we had to deal. A few powerful strokes of the oars sent us out upon the lake. Here the number of eggs lying about upon the islands was surprising. On looking through the reeds we saw quantities everywhere. Before commencing a detailed examination of this breeding-place, we rowed directly to the opposite reed-border to secure some good specimens, as mentioned above, but were surprised at not seeing any breeding birds—all the eggs were deserted. On approaching the patch of water-lilies above referred to, our attention was attracted by a flock of little Sea Swallows, which flew screaming over our heads, and appeared much frightened. Now and then a pair of these little birds came down into the dense cover. The leaves of *Nymphæa* here reach about a foot above the surface of the water, and form one confused mass with the floating plants. For the moment we deferred a close investigation, but at once recognised *Sterna hybrida*, and supposed this to be one of their breeding-places; Ferdinand confirmed this. We cautiously approached the flock of Pelicans; but, much to our disappointment, the shy birds rose before we were within shooting range; they were almost exclusively *Pelecanus onocrotalus*, old birds, which took flight at once. Only a small number, forty or fifty, alighted on the water again at some hundred yards distance. These were young birds which could not yet fly properly, and to our great surprise were all *P. crispus*. Only two greyish-brown birds, in downy plumage, had remained behind, and tried to escape by paddling along violently. We quickly gave chase, rowing after them and trying to seize them with our hands—by no means an easy task. Only when we directed both boats on one of the birds did we succeed in catching it. With the other one we went to work in the same way, but it escaped into the dense reeds, and thus we lost it, as we could not possibly follow it. The fledged flock of *P. crispus* swam about in a closely-packed column upon the lake, and we did not pursue them, although it would have been an easy matter to have annihilated the whole lot in a short time. We must not omit to describe the peculiar behaviour of the *Pelecanus crispus* which we caught alive at starting. In vain the bird made efforts to use its wings and fly away on becoming

aware of our hostile intentions. Now it cruised about cleverly on the little "liman," and several times escaped by turning sideways when we were within a yard or so of it; but the continued paddling tired it at last, and it seemed to yield to its fate. Then suddenly it seemed to wish to hide in the water, because it dived down deeply with its beak, inflating its gular pouch widely. This process it repeated three times, which interested us so much that for some minutes we gave up the pursuit. But at the third dive it opened its beak widely, and to our surprise forced out a mass of small fish; and soon afterwards a second and a third lot, evidently trying to lighten itself, and again made attempts to fly, but was again unsuccessful. A few minutes later we drew the poor thing into our boat. Here it behaved very boisterously, snapped at us and struck out with its wings. This caused our "nutshell" to sway to and fro in a threatening manner, so that we had to bind the creature to keep it quiet. We next turned to the water-lilies, in the hope of finding nests of *Sterna hybrida*, in which hope we were not disappointed. But most of the nests were empty; in some four or five only were there eggs—three in each—nearly incubated. The nests stood upon the large floating leaves, generally hidden by other leaves, forming a screen above them. The whole breeding-place is only a labyrinth of leaves and stems of *Nymphaea*. After searching for awhile we found several young birds in down. These graceful little creatures were already complete adepts on the liquid element, and with wonderful agility swam about, chirping. Five of them we took with us alive, and we also shot some old birds, so as to be quite certain there was no error in our identification of the species. Then we began taking the Pelican's eggs. We were surprised, as we have said, at the number of young specimens of *Pelecanus crispus*. Only two young *P. onocrotalus*, in downy plumage, were found. Now of what species are the eggs? Do *P. crispus* and *P. onocrotalus* breed in company here? This is hardly to be supposed, because, according to former observations, the two species are said to keep strictly apart. On the 7th inst. our *chasseur* found the colony well stocked with *P. onocrotalus*, both breeding-birds and young ones in all stages of development (there were also some young of *P. crispus*, but they were already fledged). Now where have the young ones got to? We examined most of the islands with the keenest attention, and



with the following results :—Of course the number of eggs upon each island depends upon its size. The largest islands might have been occupied by twenty or thirty breeding-birds, but quite small ones, sufficing only for one bird each, were quite as numerous. Now these islands are more or less composed of reed-fragments, often without any fresh vegetation, often also bordered by green rushes and other high plants. The aspect of the large white eggs shining through the green all round is very charming when seen from the middle of the lake. But when closely inspected the places look very dirty and slovenly. The smell was bearable, the process of fermentation and putrefaction being generally over—a sign that the birds had not laid since the 7th instant. Generally there were two eggs in a nest, but there were also plenty of single ones. Nearly half as many eggs as were lying on the islands were floating on the surrounding water. The latter keeps sending up air-bubbles, by which it is kept in constant commotion, no doubt produced by the substances putrifying at the bottom. The eggs were in all stages of hatching, but in most of them the young birds were very fully developed, so that we had some trouble to find a number which could yet be blown. The eggs which our *chasseur* had taken on the 7th were, on the average, far less advanced, and it does not seem to us at all improbable that the heat of the sun may have had some influence upon the abandoned eggs; at least to a certain extent. Our doubts as to the species of Pelican were gradually set at rest. Almost on every island, perhaps with the exception of five or six only, there were lying beside the eggs putrefying and putrefied young specimens of *Pelecanus onocrotalus* in down—not a single *P. crispus*. This, in connection with the fact that on the 7th inst. our *chasseur* had shot the four *P. onocrotalus* upon their nests, makes us certain of the genuineness of the eggs. The young of *P. crispus*, which are now moving about here, may very possibly have come over on their own account from another neighbouring colony. The cause of the desertion of this breeding-place must doubtless be looked for in the want of sufficient nourishment for these voracious birds; fish are anything but plentiful this year. The arrival of Ferdinand with the two Russians may also have had some effect, because their visit doubtless did not pass off without the expenditure of a good deal of powder. The shyness of the older birds

confirms this. Larger flocks were constantly circling over the lake but did not dare to come down. We shot one, which proved to be an old *P. onocrotalus*. While thus engaged in collecting, evening drew near, and it became high time to look out for our camp, if we did not wish to become the victims of the "wild army" of mosquitos. Storm clouds rose menacingly from the western horizon, concealing the setting sun. We could not possibly remain upon this lake on account of the smell, and, therefore, rowed through the floating islands to another one. Anxiously, however, as we looked for a suitable dry spot, not one could be found. As soon as we placed foot upon the supposed land, it went under water. A few rain-drops fell; we were wet through already as it was, which is unavoidable on excursions like these, and we began to feel slightly uncomfortable. We rowed rapidly on, looking out for land, for the forerunners of the "wild army" had already begun to appear. At last we found a somewhat firmer and larger island, thickly clad with *Nasturtium* and *Polygonum*. As quickly as possible we opened our mosquito-nets, but before we had finished the blood-thirsty millions appeared, enveloping us and everything around us in dark clouds and tormenting us to death. The agony cannot be described. Under the circumstances we could not think of a layer of rushes to lie upon, and we were thankful when we could creep under the net, which protected us a little at least. We could not be more uncomfortable than we were; we could not move if we did not wish to sink into the water which closely surrounded us. Fortunately the thunderstorm passed away, but we were nevertheless effectually saturated, for—the island sank!

July 18. A night in the Pelican colony! To pass a night of this description requires all the enthusiasm of the naturalist. To be submerged every minute deeper and deeper in stinking water, without daring to move—to have frogs, leeches, and other vermin under and beside you, beleaguered by innumerable humming and buzzing mosquitos, the noise alone is enough to drive one to despair; this is really no pleasure. We therefore felt like being born afresh when, half an hour after sunrise, we could lift up the net and wade to our boats like water-rats. We had not slept a wink—it was really most unpleasant; and it was only after we had rowed for some distance upon the lake and the sun's rays had warmed us a little, that new life returned. We

wanted to see the Pelican colony again in the golden light of the morning sun, to look for some of the finest eggs, to shoot a few young *P. crispus*, and then to bid farewell for ever to the place which had so long kept us in such a state of excitement. We set out accordingly. We only took eggs where a number of putrefying young birds were lying. The feathers on the foreheads of these left no doubt in our minds as to the species. At one shot we got three young *P. crispus*. The young *P. onocrotalus* (in downy plumage), too, was again there. This time we did not let him escape; a well-directed shot brought him down. Thus we again passed several hours in the colony. It may have been about 9 A.M. when we started on our return journey. We did not get to the Cormorants' nests of last year, which are said to stand on the willow-shrubs; our *chasseur* could not find the place again. Of *Larus ridibundus*, which bred about here, not a trace is to be seen. We must mention, however, the innumerable Sea Eagles which we saw here yesterday. For these birds, as well as for the Marsh Harriers, of which we saw numbers everywhere about, there seems to be plenty of food here. A few Purple Herons also appeared. Most plentiful of all was *Anas nyroca*; broken or rather hatched eggs of this duck we found on all the Pelican islands. Of smaller birds we have only to mention *Panurus barbatus* and *Acrocephalus turdoides*, together with some other species of *Acrocephalus*. Thus we quitted this promising breeding-place, satisfied to have found and seen it at all, but less satisfied with our booty, which was hardly adequate. Eggs, of course, we might have carried away by thousands, but we were satisfied with a couple of hundred of them—how many of these we shall be able to blow is a question. We particularly wanted young birds in down and old birds, and these wants were not supplied. The return journey through the reeds was performed quickly, but it was by no means easy. Two hours later we reached the Girda Litkow and found the large boat again, untouched. With difficulty we forced our way through the dense chaos of aquatic plants, rowing with our united strength. The July sun burnt us dreadfully. As before, we rowed in the large boat and tied on one of the small ones behind. In the afternoon we got back to the fishing-hut. This in reality is the only place where one can get a firm footing; and although only a small island, it is at least firm. The old man received us with an

excellent dish of Carp, which was extremely welcome. In spite of feeling completely worn out, we sat down to work immediately under the mosquito-net. An old cask and a plank formed our table, with which we had to be satisfied. The fisherman and his servant soon left for Iuisslin; the boy for Kara-Orman. The latter we commissioned to bring us back some good "wotka" (brandy) to-morrow; one needs it here in these lagoons. Thus we are quite alone at the fishing-hut, far away from all human beings. Towards evening *Sterna hirundo* flies about on the Girda, while the Bearded and Penduline Tits, the Great Reed Warbler, and the Reed Bunting are heard everywhere around.

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#### OCCASIONAL NOTES.

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THE 'ALERT' IN THE STRAITS OF MAGELLAN.—The following extracts from a letter addressed to Capt. Feilden by Dr. R. W. Coppinger, Surgeon of H.M.S. 'Alert,' dated Tom Bay, Trinidad Channel, Straits of Magellan, 4th March, 1879, will be read with interest:—"I shall not pack up anything for sending home until our arrival at Valparaiso, where we expect to be in May. I am not collecting the plants here, as they have already been so thoroughly worked out that I should only be losing time, otherwise valuable. Excepting the difference in dialect, the natives of these western channels, extending from the Straits of Magellan to the Gulf of Penas, seem to be in nearly all respects similar to those of the western parts of Terra del Fuego, who have been so carefully described by King and Fitzroy and Darwin. Their general appearance, boats, wigwams, food and manner of living seem to accord closely. They, however, very sparsely populate the wide extent of country which they wander over, and to judge from the number of deserted huts that we encounter, in proportion to those that are tenanted, it would appear that they seldom remain long in the same situation. I do not think they are compelled to adopt this wandering life through a scarcity of their staple diet in any one situation, for mussels and limpets are so abundant about these coasts that in any of the favourite camping grounds—*i.e.*, where a gently sloping beach allows a large extent of foreshore to be exposed at low-water—I should think the supply practically inexhaustible. The animals which they hunt are the Seal and the Otter, and for this chase they are provided with dogs and bone-pointed spears; but, judging from the few skins which they exhibit, and from the small number of bones of the above animals which are to be found in their wigwams, as well as from the few individuals of the Seal and Otter tribes



which we have come across, it would appear that their captures in this way cannot be great. You would be surprised to see how really fat and well nourished these savages are. Their proverbially wretched appearance is due to nakedness, dirt, and shuffling gait, and to their own seemingly innate feeling of human inferiority. Much misconception appears to prevail with reference to the number and species of fish which inhabit these waters, it being commonly supposed that throughout these western channels of the Straits of Magellan region the members of this class are remarkable for their paucity. The truth is that fish are abundant enough, but are rarely to be caught with hook and line, perhaps owing to the abundance of shell-fish which nature provides for their food. However, by means of a trammel-net placed nearly opposite the outlets of mountain streams we have, in most of the places in which we have anchored, succeeded in capturing considerable numbers; so much so as to constitute an item of no mean significance in the dietary of the ship. The hook and line we have now discarded as almost useless. Even the fresh-water lakes are not altogether barren, for quite recently we obtained from a large fresh-water lake, which occupies a mountain basin close to the sea, two species—one a fish about eight inches long, which in general outline and arrangement of fins resembled a Grayling, but was without scales, and the other a small fish something like a Minnow. I have as yet failed to discover any representatives of the Batrachia on the Magellan Islands; but on the opposite shore of the mainland—*i. e.*, on the western slope of the Cordillera—I have found two or three kinds of Frogs, which have, I believe, been already collected by Dr. Cunningham. However, in the discovery of a Rat inhabiting a small islet, distant about fifteen miles from the mainland, I have, I think, added to the list of animals living in these desolate cloud-collecting regions. I trust that I am not wearying your patience by this wordy epistle, which only too plainly displays the paucity of facts which I have as yet collected. Mr. Howard Saunders has asked me to note the distribution, breeding haunts, &c., of the Gulls as carefully as possible. So far we have met with only three species in these channels, viz., *Larus dominicanus*, *L. modestus*?, and a very wary Skua of a dusky brown colour, and barred with white across the wings. This latter I have not yet succeeded in getting within range of. In reading just now, in 'The Times' of the 29th November, Dr. Schliemann's account of his recent excavations at Troy, I notice that he expresses his astonishment at finding immense numbers of the shells of cockles and mussels among the strata of the prehistoric *débris*. He further says, "No doubt they have once been plentiful in these seas, and most probably the Iliahs have been eating them; but it remains unexplainable why they left them in the houses instead of throwing them away." It might be interesting to him to know that among the Fuegian tribes who inhabit these regions, and who

live almost exclusively upon mussels and limpets, the practice exists of depositing great numbers of the empty shells on the floor of the huts. They do not cast them away as articles of refuse, but deposit a portion in the centre of the wigwam, and the remainder in a heap at the entrance. In searching the floors of deserted wigwams for relics of native implements I have frequently excavated through considerable depths of empty shells. In Byron's narrative of the loss of the 'Wager' (see Burney's 'Voyages'), he mentions that, when travelling in a canoe with a party of these natives, he once innocently threw the shells of the mussels which he had been eating overboard, and was thereupon attacked by the savages, and but for the intercession of the women would have suffered the penalty of death for his imprudence. He afterwards noticed that his native companions carefully preserved their empty shells in the boat until they reached the shore, when they placed them in a heap above high-water mark. There is no reason whatever to believe that these shells are preserved for any purpose of utility; but what the nature of the superstition may be I have not as yet been able to ascertain."

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ROE-DEER IN DORSETSHIRE. — I observe from a note in the April number of 'The Zoologist' (p. 170) that Mr. Dale erroneously considers Ireland and America to have been the original homes of the Roe-deer introduced into Dorsetshire by the late Earl of Dorchester. There is no question about their having been brought to Milton from Scotland. I have heard my grandfather, who was Lord Dorchester's contemporary and next-door neighbour, often say so. The mistake in Mr. Dale's mind as to their Irish origin may possibly arise from Lord Dorchester having estates in Ireland as well as in Dorsetshire. It is quite certain the Roe has not existed in the sister island within historic times, and there is no record of it during the quaternary period, although its remains are found associated with *Cervus megaceros* in the British and continental bone-caves of that period. With regard to America, although it ranges over temperate and southern Europe and Syria, it is not met with in the greater part of Russia, being apparently incapable of survival in high latitudes; hence it never crossed over from the Old to the New World with the Reindeer and the Elk before the submergence of the land at Behring's Straits. These latter are the only two deer common to both continents; but it is right to say that naturalists are undecided as to the identity of the American Caribou and Moose with the European Reindeer and Elk; the impression seems to be gaining ground that they are distinct. In conclusion, I may confidently say that no true capreoline type of deer exists in America. The Rev. O. P. Cambridge, in his note (p. 209), omits to take into consideration that the Roe-deer transferred from this district in 1829 increased and multiplied far beyond the limits of Charborough; for it is

impossible to suppose that the seven and a half brace introduced by Mr. Drax in 1853 could have sufficiently increased in numbers as to give Mr. Radcliffe's hounds the opportunity of killing nearly twenty brace in 1856 and 1857 (after an interval of barely three years)—a death-rate representing more than three times that number which escaped. Mr. Radcliffe's country extended far beyond the purlieus of the Charborough estate, and where, no doubt, the descendants of the first importation had not been extirpated, as had been the case at Charborough. With regard to the number of fawns the doe produces at a birth I can speak with some authority, for living in the metropolis of these little cervines I have frequent opportunities of observation, and I can say without hesitation that the doe "produces two and sometimes three fawns at a time" (p. 121). Her withdrawal from the rest of the family and her isolation at fawning time renders it certain that the fawns seen by her side are her own. Three are not only frequently seen following her, but are found by the keepers in the same lair within a few moments of their birth, and too feeble to escape. Mr. Cambridge corrects my statement by quoting Mr. Bell, who in his first edition (1837) follows Pennant's and Bingley's opinion that two fawns are produced at a time; and the 'Gentlemen's Recreation' (sixth edition, 1721, p. 72), says, "besides some Roe-deer have been killed with five fawns *in utero*."—J. C. MANSEL-PLEYDELL (Whatcombe, Dorsetshire).

CAUSE OF DECREASE OF ROE-DEER: ERRATUM.—In your next number kindly make a slight correction in my communication on Roe-deer, p. 209, line 11 from the top of page. "*The cause*" should be "*one cause*." My illegible handwriting probably misled the printer. The cause mentioned is by no means the *only* cause of the diminishing numbers of our Roe-deer, though it is undoubtedly *one* cause, and one which a little consideration on the part of our sportsmen might easily prevent.—O. P. CAMBRIDGE (Bloxworth).

OTTERS AND BADGERS IN BERKSHIRE.—In a shop in Reading are three stuffed Otters, which were killed at Sandford Mill, on the River Loddon, within the last nine months. The finest is a dog-otter of great length captured during the last long frost, and which I am assured weighed in the flesh twenty-nine pounds eight ounces. This fellow broke away with a twenty-pound trap and chain, and drowned himself. His fur is a deep hair-brown, very handsome. One of my friends saw at Wallingford in April last a pair of fresh-killed Otters, in the flesh, taken from the Thames the same day, a third having escaped. The Badger is still extant in Berkshire. In the woods at Hampstead Norris, near Newbury, a pair of female Badgers were recently dug out of an old chalk-pit. A young male, bagged at the same hole previously, is now in the possession of one of my friends—a somewhat uninteresting pet. He recently slipped his collar, and dug his

way out, but returned the next night. He is a fat and stupid beast, and paid no attention to a Lop-eared Rabbit which I saw hop into his den. More recently a pair of small Badger cubs were dug out in the same district, but unfortunately were destroyed. An old male is still about the woods, and has lately been digging at the disused earths.—H. M. WALLIS (Holmesdale, Reading).

MARTENS IN CUMBERLAND.—On April 12th a female Marten was killed by the hounds on Middlefell, in Wastdale. Its breeding retreat was discovered and two young ones found, still blind, one being considerably larger than the other. The smaller of the two was given to a cat which had lately become a mother, in hopes that she would suckle it, but by the next morning it had disappeared. The next day (April 13th) another fine female was trapped near Dalegarth, in Eskdale. This last, which I saw myself, had a white breast, very faintly tinged with yellow.—CHARLES A. PARKER (Gosforth, Carnforth).

FORMER OCCURRENCE OF THE MARTEN IN ESSEX.—I can add one more to the list of occurrences of the Marten in East Anglia. About 1822 one was killed in the Waltham Woods, near Chelmsford, by the late Mr. Thomas Gopsill, of Broomfield, near Chelmsford. I learn from my father, who had it from the actor, that, seeing something move in a crow's nest, he fired and the Marten rolled out dead. I do not think this can have been a Polecat, an animal which was common at that time and long afterwards, but is not arboreal in its habits. My father remembers seeing five full-grown Polecats killed together in a drain by a terrier near Chelmsford.—H. M. WALLIS (Holmesdale, Reading).

STOAT IN ERMINE DRESS.—On the 3rd March last I saw near here a very beautiful example of the Stoat assuming the ermine dress. It was perfectly white, excepting the black tip of the tail, and an exceedingly regular, oblong, red-brown patch on the middle of the back, looking exactly like a saddle. Being in hot pursuit of a rabbit this Stoat did not notice me. I had therefore, by standing quite still, opportunity of observing it, within a few yards distance, for nearly ten minutes, as it made several casts to pick up the scent.—O. P. CAMBRIDGE (Bloxworth, Blandford).

POLECAT IN BEDFORDSHIRE.—On March 28th a Polecat was killed at Sir George Osborn's seat at Chicksands Priory, and brought to Mr. Wright, of Clifton, to be stuffed. It is reported that another was trapped elsewhere in the county; but I have not been able to get the latter occurrence properly authenticated.—C. MATTHEW PRIOR (Bedford).

BANK VOLE NEAR EXETER.—On the 21st March last Mr. A. Dudley, of Ide, brought me a living specimen of this little rodent, *Arvicola glareolus*



(Schreber), which had been taken in a mouse-trap in his potato-house. His attention was directed to it by its having a white patch on the head. Its reddish colour, smaller size, more slender form, and longer ears readily distinguish it from the Common Meadow Vole. It is the first specimen I have been able to procure, though it has long been recorded as a Devonshire species, on the authority of the Rev. W. S. Hoare, in Rowe's 'Perambulation of Dartmoor.' There are no well-authenticated instances of its occurrence in this county. On presenting a small brush dipped in prussic acid to this example, I was surprised to see it at once commence to lick it, and it, of course, immediately died. An albino rat treated in the same way made frantic efforts to push the brush away from it with its paws, taking up handfuls of its bedding, and using it as a shield to protect its face, and it was only by flicking the poison at it that he succeeded in killing it.—W. S. M. D'URBAN (Albert Memorial Museum, Exeter).

ORNITHOLOGICAL NOTES FROM THORPE.—The following notes contain a brief record of birds seen and obtained between November, 1878, and April, 1879, on the Thorpe Mere, near Aldeburgh:—At the beginning of November a few large Black-backed Gulls came into the mere, but a greater number stayed outside in the open sea, with other Gulls and Divers, following the herrings. On the 15th November a fine specimen of the Red-necked Grebe was shot. This is not a very common member of the Grebe family with us. On the 18th December I obtained two Short-eared Owls. On the last day of the old year a fair number of Duck, Teal, and Widgeon came over with a great number of Gulls and a few Knots. On the 2nd January a Sanderling was brought to me. All the birds on the mere seemed to be suffering from cold, and to be in a very starved condition. I saw a strange sight one morning going down to the ice. All the Gulls from the mere had collected in one small garden. One of these birds, apparently on an exploring expedition for food, had found in the garden belonging to a ruinous uninhabited cottage a heap of offal, and some two or three hundred Gulls were soon assembled here. The strongest one (a fine old Herring Gull) stood on the top of the heap making a hearty breakfast, while the others flew round, screeching with anger, and fighting each other to obtain a place near the heap. I watched them for some time, coming quite close, but the birds, tamed by hunger, did not appear to be the least scared at my presence. On the 20th January a Razorbill was washed ashore, just alive, but without any power to help itself, disabled by hunger and cold. On January 25th a Glaucous Gull was shot, as already recorded by me (p. 135), and on the 26th two Scaup Ducks, both males. A large flock of Brent Geese flew over in the following week. On the 4th February a Razorbill was washed ashore dead; on the 24th

a Slavonian Grebe was brought to me, its only peculiarity being its irides, which were yellow; and on the 28th a Goosander. At the beginning of March a few Redshanks appeared; and on the 5th of the same month a Guillemot was washed ashore, having died of starvation. A large number of Brent Geese stayed January and February with us, and towards April a few Bean Geese came over.—F. M. OGILVIE (Sizewell, Leiston).

CORMORANTS ON THE DORSETSHIRE COAST.—Mr. T. M. Pike, writing of the wildfowl in the Poole district (p. 214), says:—"The Green Cormorant, formerly quite a rare bird on our cliffs, has now several stations on the same piece of wild coast line (*i. e.* between Old Harry and Lulworth), and seems likely to become as familiar as his larger brother, the Shag." I assume that Mr. Pike has good reason for bestowing the name "Shag" on the *larger* of the two British species of Cormorant, *Phalacrocorax carbo* (Linn.), but I have always heard that name applied exclusively to the smaller Green or Crested Cormorant, *P. cristatus* (Faber). My experience also conflicts with that of Mr. Pike in regard to the proportion in which these two species frequent the Dorsetshire coast. When spending a few weeks at Lulworth during the nesting-season of 1865 I made careful observations of the birds that were then breeding on that coast, and estimated that I saw at least twenty of the smaller green "Shags" for every one of the larger Cormorant. The fishermen at Lulworth called them "black shags," and so common were they along that coast that on throwing a stone down from the top of a cliff we frequently saw twenty or thirty of them fly out to sea. This was nearly fifteen years ago, and things may have altered since then. It is curious, however, if the proportion in numbers is now reversed, and the Great Cormorant is now the commoner species. Can it be that the larger bird, by usurping the best nesting-places, has gradually driven its smaller congener away, in the same way as the Jackdaw on some parts of the coast has banished the Chough? Mr. Pike will find my notes on the two species, as observed on the Dorsetshire coast, in 'The Zoologist' for 1865, pp. 9674, 9675.—J. E. HARTING.

RING OUZEL WINTERING IN ENGLAND.—I am much interested in your article on the Ring Ouzel (p. 203). You have certainly proved that a few remain sometimes with us through the winter, but I hardly think you have proved them entitled to be called "residents," a term I conceive that ought only to be applied to those species that remain regularly with us every year. I think, too, they ought hardly to be classed with the Pied Wagtail and Meadow Pipit, numbers of which remain all the year, but rather with the Wheatear and Landrail, which have frequently been found at uncertain intervals in the winter months. The very fact of several people writing to you on the subject proves that they thought the occurrence of these birds in winter unusual; but out of the six counties where they

are said to have wintered, I venture to remark that two (Norfolk and Salop) ought to be struck off; for though, in Norfolk, they were seen in severe frost, that frost might have been early in November, before they had all migrated; and, in Salop, my bird might have been wounded, or may have migrated after I saw it. At any rate I never saw it again, nor have I seen any others all the winter since, though I have kept a sharp look out. In the autumn of 1877 the crop of mountain ash and hawthorn berries was very abundant and the weather very mild, but the Ring Ouzels only stayed ten days later than their usual time, with the exception of two, and those I saw for the last time on the 2nd December. As far, therefore, as this county is concerned, I think they must be considered summer migrants, occasionally, but rarely, stopping till late in autumn, perhaps even through the winter.—WILLIAM E. BECKWITH (Eaton Constantine, Salop).

RING OUZEL NESTING IN ESSEX.—My friend Mr. C. E. Bishop, of Wickham, Essex, tells me that on the 10th May he found a Ring Ouzel sitting upon four eggs in that parish. The nest he describes as placed almost upon the ground among rough herbage, about a foot from the edge of a ditch, and a few yards from the River Blackwater. The eggs he describes as more boldly spotted than is usual with Blackbird's. Only the hen bird has been seen, and she is—or was lately—still sitting. I may add that Mr. Bishop has collected eggs and observed birds from childhood, and is not likely to be mistaken.—H. M. WALLIS (Holmesdale, Southern Hill, Reading).

SONG OF THE RING OUZEL.—If I do not err, the song of the Ring Ouzel has not been often, if ever before, noted in the South of England. It was therefore an unexpected pleasure to me to hear it lately (April 18th), without any possibility of mistake. I was walking along the lane between Bloxworth and Winterbourne Tomson, and on the top of a not very high solitary tree were two birds, one of which was singing away merrily. The shelter of the hedge enabled me to get almost underneath the tree unobserved, when, to my surprise, the birds proved to be a pair of Ring Ouzels. The male continued to sing until some minutes after, when, disturbed by my movements, they both flew to another tree about fifty yards off, where the song was immediately resumed. If I had not proved the bird singing to be a Ring Ouzel I should have unhesitatingly concluded it to have been a Blackbird; its notes were equally full and mellow, but with rather less compass, and not quite so much variety in the strain.—O. P. CAMBRIDGE (Bloxworth, Blandford).

SLAVONIAN GREBE IN BEDFORDSHIRE.—A specimen of the Slavonian Grebe was shot near Bedford during the last week in February. It was an adult bird in perfect winter dress.—C. MATTHEW PRIOR (Bedford).

ROOKERIES OF LONDON.—The rookery in Kensington Gardens has increased from thirty-one nests last year to fifty this year. The little colony in the Deputy Ranger's Grounds, Hyde Park, is deserted; only two nests remain, and they are not tenanted. There are sixteen nests in the plane trees in Brunswick House Gardens, New Road; and eight nests in two plane trees behind Nos. 10 and 8, Upper Wimpole Street. The colony in the garden in Gower Street has increased from three to five nests.—EDWARD HAMILTON (9, Portugal Street, Grosvenor Square).

ROOKERIES OF LONDON.—The Rooks' nests, which have for years been frequented each spring, in the trees near Hereford Square, Old Brompton, are this year deserted by the old birds, much to the regret of many inhabitants. The noise of the workmen on the numerous buildings that are being erected in the vicinity is doubtless the cause of their going away. This is much to be lamented, as they are so interesting in their habits, and so cheerful in towns.—LAMBTON YOUNG.

EARLY NESTING OF THE WATER RAIL.—It may be worth recording that on the 8th April a nest of the Water Rail, *Rallus aquaticus*, containing nine eggs, was taken in East Norfolk. These eggs, which I received unblown, were slightly incubated, and it strikes me as being an unusually early date at which to find incubation with this species so far advanced.—A. H. EVANS (Clare College, Cambridge).

HOOPOE IN FIFESHIRE.—A male specimen of the Hoopoe was shot by the under-keeper to Mr. Baird, of Elie, at Elie House, Fifeshire, on the 8th May. The specimen, which has been preserved by Mr. Small, of this city, is in very fine plumage. The occurrence of the Hoopoe at this season in Britain is very unusual.—J. J. DALGLEISH (8, Atholl Crescent, Edinburgh).

[This may be so in North Britain, but not in the South of England, where the Hoopoe is an annual spring visitant.—ED.]

GREAT SPOTTED WOODPECKER IN PERTHSHIRE.—I have to record the occurrence, in the south-west of Perthshire, of an adult female Great Spotted Woodpecker, at Donne Lodge, the seat of the Earl of Moray, on the 24th April last.—J. H. BUCHANAN (Leny, Callander, N.B.).

[This bird is a well-known winter visitant throughout Scotland, and specimens have been obtained in almost every county. On the east coast within the last few years it has become rather common. See Gray's 'Birds of the West of Scotland,' p. 190.—ED.]

FIELDFARES IN MAY.—On May 5th I saw near here a considerable flight of Fieldfares. This is the latest date I have recorded, during the last twenty-five years, of their being seen in this neighbourhood. The nearest to it occurred in 1872, when I observed some, in company with Redwings, on the 25th April. On the present occasion, however, there were, so far as I could see, no Redwings.—O. P. CAMBRIDGE (Bloxworth, Blandford).



BOAR-FISH AT TORQUAY.—Mr. Penny's mention of the occurrence of the Boar-fish on the Dorsetshire coast (p. 221) leads me to state that two living specimens of the same species were taken in the inner harbour, Torquay, on the 24th February last. One of the specimens is now in the Museum of the Torquay Natural History Society.—W. PENGELLY (Torquay).

BOAR-FISH AT EXMOUTH.—When at Exmouth, on the 24th April last, I was shown two specimens of the Boar-fish, *Capros aper*, about five inches in length, which had been taken in a net on the previous day just outside the "bar"—a long reach of sand-banks covered at high-water. I purchased them for this Museum. They are the first specimens which have ever been taken at Exmouth, so far as I can ascertain. It is remarkable that so many examples of this fish should have occurred at the end of last March on the Dorsetshire coast, so far from its usual habitat, which, according to Couch, is close to the Runnel Stone, near the Land's End.—W. S. M. D'URBAN (Albert Memorial Museum, Exeter).

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## PROCEEDINGS OF SCIENTIFIC SOCIETIES.

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### ZOOLOGICAL SOCIETY OF LONDON.

May 6, 1879.—Professor W. H. FLOWER, LL.D., F.R.S., President. in the chair.

The Secretary read a report on the additions that had been made to the Society's Menagerie during the month of April, and called special attention to two Lanceolated Jays, *Garrulus lanceolatus*, from the Himalayas, and two Siberian Roe-deer, received in exchange. The Secretary also announced the arrival of a Japanese Goat-Antelope, *Capricornis crispus*, presented by Mr. H. Pryer, of Yokohama; and of an Alpine Accentor, *Accentor alpinus*, received in exchange, being, it was believed, the first example of this little bird seen in captivity.

A letter was read from Mr. E. L. Layard, relating to the localities of certain species of Fruit Pigeons (*Ptilopus*) of the South Pacific Islands.

Prof. Flower exhibited and made remarks on a drawing of a British Cetacean, *Delphinus tursio*, taken from a specimen captured near Holyhead in 1878.

A communication was read from Mr. Gerard Krefft, giving the description of a supposed new form of insectivorous Bat, of which a specimen had been obtained on the Wilson River, Central Queensland.

The Rev. Canon Tristram read a description of a new species of Wood-pecker, from the island of Tyzu Sima. near Japan, which he proposed to name, after its discoverer, *Dryocopus Richardsi*.

A communication was read from Mr. F. Moore, containing the descriptions of new genera and species of Asiatic Lepidoptera Heterocera. Eleven new genera were characterized and ninety new species described.

Mr. G. French Angas read the descriptions of ten new species of shells of the genera *Axinæa* and *Pectunculus*.

A communication was read from Mr. W. A. Forbes, on the anatomy of the African Elephant, based on facts observed during a dissection of a young female of that species during the last winter. The structures of the thoracic, alimentary and urino-genital viscera of this species were described, and compared with the previously published accounts of those of both the Indian and African species of Elephant. The most important differences observed were those displayed in the liver and female organs; but on the whole were not of such a nature as to make it advisable, in the author's opinion, to separate *Loxodon* as a genus from *Elephas* proper.

A paper was read by Mr. F. Jeffrey Bell, on the question of the number of anal plates in the Echinoderms of the genus *Echinocidaris*.—P. L. SCLATER, *Secretary*.

#### ENTOMOLOGICAL SOCIETY OF LONDON.

April 2, 1879.—J. W. DUNNING, Esq., M.A., F.L.S., Vice-President, in the chair.

Mr. McLachlan exhibited the cases and sixteen species of Brazilian caddis-flies, with the insects bred from the larvæ that manufactured some of them, sent to him by Dr. Fritz Müller, from Santa Catharina. Included were the cases exhibited at the meeting of the 4th December last.

In connection with the habits of the Mantidæ—a subject which had been recently brought under the notice of the Society by Mr. Wood-Mason and others—Mr. Stainton remarked that on March 20th, 1866, he received a letter from Mr. Moggridge, jun., stating that he had forwarded a caterpillar “and also a curious grasshopper (?)” The latter was enclosed in a box, from which, on being opened, there jumped out a little creature which he had no difficulty in recognising as a young *Mantis*. It was of a whitish green colour, and may possibly have been the young larval form of *Mantis religiosa*. It was placed back in the box, and the next morning again examined, the long anterior segment of the thorax and the peculiar anterior legs leaving no room for doubt that the specimen, in spite of its hopping movements, was a young *Mantis*. It was again turned out of the box, and again made little jumps, not such springs as would be taken by a grasshopper, but still there was that in its movements which quite justified Mr. Moggridge, who, although a first-rate botanist, has not yet turned his attention to Entomology, in styling it “a curious grasshopper (?)” De Geer observes (vol. iii., p. 401) that “les *Mantes* approchent beaucoup des Sauterelles, quoiqu’elles ne puissent pas sauter.” Mr. Stainton was of opinion

that this peculiar motion of the baby *Mantis* is one of those cases to which Mr. Darwin has called attention, *viz.*, that the relationship and affinities of animals are often more expressed in the embryonic than in the adult form.

Sir Sidney Saunders exhibited a bag, said to be the production of a large species of spider, brought from the Fiji Islands by Mr. Henry Selfe, engineer on board a steamship trading between those islands and New Zealand. A similar specimen is said to be in the Auckland Museum. The natives are stated to split bamboos and to place the pieces in the form of a bag in the track of the spiders, and when covered by these the slips of bamboo are drawn out. It is believed that the natives make cloth of these webs. This information was obtained from another Englishman who had resided four years in these islands.

The Chairman pointed out that, supposing subsequent inquiries to confirm these statements, this would probably be the first known case of an articulate animal being made to manufacture *directly* a fabric useful to man.

The Secretary read the following note by Mr. J. W. Slater, "On Insects destroyed by Flowers":—

"Whilst it is generally admitted that the gay coloration of flowers is mainly subservient to the purpose of attracting bees and other winged insects, whose visits play so important a part in the process of fertilization, it seems to me that one important fact has scarcely received due attention. Certain gaily-coloured, or at least conspicuous, flowers are avoided by bees, or if visited have an injurious and even fatal effect upon the insects. Among these are the dahlia, the passion-flower, the crown-imperial, and especially the oleander. That the flowers of the dahlia have a narcotic action both upon humble-bees and hive-bees was first pointed out, I believe, by the Rev. L. Jenyns, in his 'Observations in Natural History' (p. 262). He mentions that bees which visit these flowers are 'soon seized with a sort of torpor,' and often die unless speedily removed. He quotes also a writer in the 'Gardener's Chronicle,' who pronounces the cultivation of the dahlia 'incompatible with the success of the bee-keeper.' I find it also recorded that the passion-flower stupifies humble-bees: that bees of all kinds avoid the crown-imperial and the oleander, and that the honey of the latter is fatal to flies. I cannot call to mind that I ever saw a butterfly or a moth settled upon the flowers of this shrub in Hungary and Dalmatia, where it is very abundant. It seems not unimportant to ascertain whether the above-mentioned phenomena have been verified by other observers; whether any other insects, in such cases, undertake the functions generally exercised by bees, and whether other flowers have a similarly noxious or deadly action upon insects."

The Secretary also read a paper communicated by Miss E. A. Ormerod, entitled "Observations on the Effects of Low Temperature on Larvæ," in

which the authoress comes to the conclusion that of all the species belonging to different Orders examined during the severe frosts of the past winter, none were materially injured by the low temperatures to which they were subjected. Specimens in illustration of the paper were exhibited.

Mr. Stainton remarked that although he fully agreed with Miss Ormerod that insects did not suffer directly from cold, yet he knew of two instances during the past winter in which a great loss of insect-life had ensued, owing to the leaves tenanted by mining larvæ having been killed by the severe frost. It was the habit of the larva of *Lithocolletis messaniella* to feed up during the winter months in the leaves of the evergreen oak (*Quercus Ilex*), and the effect of the extreme cold had been to kill the leaves of many trees of *Q. Ilex*, which were now quite leafless, although others similarly placed seemed to have escaped unhurt. Where a leaf containing a mining larva had been killed, the latter, unless capable of quitting the leaf to seek fresh food,—a power which no larva of the genus *Lithocolletis* possessed,—had necessarily died of starvation. On those trees of *Q. Ilex* which had escaped injury from the cold, Mr. Stainton had found that these larvæ were much less developed than was usual at this period of the year, and hence he anticipated that the moths which should appear at the end of April would be delayed beyond their usual time. The other instance he had noticed was that of the larva of *Tischeria marginea*, which fed up during the winter months in the leaves of the bramble; in the neighbourhood of Lewisham almost every leaf of bramble had been totally killed by the frost, and of course the in-dwelling larvæ had perished for lack of food.

Mr. M'Lachlan stated that it was generally believed that wet winters were far more destructive to insect-life than dry cold ones, however severe.

Mr. W. Cole asked whether the insects observed by Miss Ormerod were actually frozen throughout, since it seemed to him improbable that the vital fluids in the tissues could be solidified without causing death. It was known that when the protoplasm of the leaves of trees was actually frozen the leaves were killed.

Miss Ormerod stated that some of the larvæ observed by her enclosed in frozen earth were in a state of brittleness when taken out, but nevertheless recovered on being thawed.

Mr. M'Lachlan was of opinion that animals might be frozen throughout into a state of perfect rigidity, and yet recover when thawed. He instanced the case of a fish which had been found in this condition imbedded in ice, and which had recovered on thawing.

Mr. W. L. Distant communicated a paper containing "Descriptions of new Species of Hemiptera collected by Dr. Stoliczka during the Forsyth Expedition to Kashgar in 1873-74," to form portion of the general work on the scientific results of the Expedition, now in course of publication at Calcutta.—R. MELDOLA, *Hon. Secretary*.